

# Summary

## A. Introduction

The study area for this Environmental Assessment (EA) is located in Clay County, Missouri and is situated in the cities of Liberty, northern Kansas City, and Pleasant Valley between the M-152 interchange at I-35; and the Pleasant Valley interchange at I-35, US 69, Pleasant Valley Road, and W Liberty Drive (Figures I-1 and I-2).

The proposed action is comprised of an overpass of I-35 that will connect Flintlock Road north of I-35 at NE 76th Street to Flintlock Road (formerly Hughes Road) south of I-35 at W Liberty Drive. Currently no connection exists between these two segments of Flintlock Road. Flintlock Road north of I-35 falls in the City of Kansas City. South of I-35, Flintlock Road falls in the cities of Liberty and Pleasant Valley (see Figure I-2).

The proposed Flintlock Road Overpass is a cooperative effort of the City of Kansas City, Missouri; the City of Liberty; the Liberty School District; and the Economic Development Corporation of Kansas City. Design and construction of the bridge over I-35 would be coordinated with the Missouri Department of Transportation (MoDOT). The Federal Highway Administration (FHWA) will fund approximately \$19.2 million of the project through the recently approved Federal Transportation Bill, SAFETEA-LU. The remainder of the project funding will be provided by the cities of Liberty and Kansas City, Missouri, and the Economic Development Corporation of Kansas City.

Improvements at the M-152 and Pleasant Valley interchanges in recent years have helped to improve safety and capacity at those locations. However, continued growth along the M-152 corridor, within the Liberty Triangle (at the intersection of I-35, M-291, and M-152), and along the South Liberty Parkway and Flintlock Road corridors will continue to impact safety and capacity. The proposed action, which is included in the Mid-America Regional Council's (MARC) Long Range Transportation Plan (LRTP), will provide another alternative to traffic crossing I-35.

## B. Purpose and Need

An I-35 overpass will provide more direct access to and from the residential, commercial, and educational activity centers on both sides of I-35 and is a cost effective way to relieve congestion, increase safety, and promote economic growth between two communities. The specific purpose and need for the proposed action can be summarized as follows:

- **Traffic Safety** – Decrease the number and severity of crashes occurring at the M-152/I-35 and Pleasant Valley Road/I-35 interchanges.
- **Roadway Capacity** – Increase east/west roadway capacity by providing an alternate route for traffic wishing to cross I-35.
- **Increased Mobility** – Provide an alternate route across I-35 for residents living east and west of I-35.
- **Increased Economic Development Opportunities** – Increase access to the growing economic areas along M-152, Flintlock north of I-35, and along South Liberty Parkway once it is completed.

## C. Project Alternatives

The Proposed Action and alternatives addressed in this EA were developed through coordination with the City of Liberty, the City of Kansas City, the Liberty School District, MoDOT, and through public involvement. Some alternatives were screened out early in the evaluation process because of extensive impacts to the existing built environment and the Little Shoal Creek floodway.

The Final Build Alternatives were developed to minimize bridge construction, impacts to the built environment, and impacts to Little Shoal Creek and its floodway, and include the following (see Exhibits II-6, II-7 and II-8 in Chapter II):

- Alternative A (traditional intersections at NE 76<sup>th</sup> Street and Liberty Drive)
- Alternative B (roundabout at NE 76<sup>th</sup> Street, standard intersection at Liberty Drive)
- Alternative C (roundabouts at NE 76<sup>th</sup> Street and Liberty Drive)

The alternatives considered for the Proposed Action also include the No-Build Alternative with Mass Transit and Intelligent Transportation Systems. The No-Build Alternative would not meet the improvement needs in the study area as identified in the Purpose and Need, however, it does provide a basis of comparison for evaluating the impacts and benefits of the Final Build Alternatives.

### 1. ALTERNATIVES ANALYSIS

The identification of the recommended Preferred Alternative for the Proposed Action was based on an evaluation of engineering issues and cost, traffic and safety issues, environmental impacts, social/economic issues (see Table II-5 in Chapter II) and public input. Key points of the evaluation results include:

- All of the Build Alternatives meet the Purpose and Need.
- Build Alternative A with Traditional Intersections would be approximately two million dollars less than the roundabout alternatives (B and C).
- Build Alternative C (with two roundabouts) would provide the greatest Level of Service at all of the proposed intersections.
- Build Alternative C (with two roundabouts) would provide the greatest potential crash reduction.

Build Alternative A (traditional intersections) would satisfy the purpose and need of the project, but would provide an inferior Level of Service at the Liberty Drive and NE 76<sup>th</sup> Street intersections. Traffic models indicate that the use of roundabouts on a four-lane facility would be the optimal solution to handle the estimated traffic volumes. Build Alternatives B and C (the roundabout alternatives) are estimated to be a higher cost, but would also encompass additional work on NE 76<sup>th</sup> Street and provide a higher benefit than the traditional intersection alternative.

It should be noted that the approximate two million dollar difference in cost between Alternative A and Alternatives B and C is primarily due to the replacement of the bridge on NE 76<sup>th</sup> Street west of Flintlock. Because of the geometry required for a roundabout at Flintlock and NE 76<sup>th</sup> Street, the existing bridge would have to be replaced under Alternatives B and C. This bridge is currently listed on the City of Kansas City, Missouri's Capital Improvements Program to be replaced at an estimated cost of 1.2 million dollars. If this future cost were factored into Alternative A, the cost difference between Alternative A and Alternatives B and C would become negligible.

## **2. PROPOSED ACTION (Recommended Preferred Alternative)**

After evaluating traffic, safety, public involvement, and environmental issues, Alternative C, the 40 mph floodway avoidance alignment with roundabouts at NE 76th Street and at Liberty Drive (see Exhibit II-8), was determined to be the Proposed Action (recommended Preferred Alternative), as it would provide the most benefit at an additional, but reasonable cost. The projected Flintlock Road Average Daily Traffic (ADT) for the design year is approaching the capacity for a four-lane facility. Roundabouts would give the proposed facility a higher average vehicle capacity per lane, potentially extending the life of the corridor.

The Proposed Action would utilize a 40-mile-per-hour design speed, 11-foot wide lanes, a four-foot wide median, and a 10-foot wide multi-purpose trail on the east side of the roadway (see Exhibit II-2). Median widths would vary at intersections and where the proposed roadway meets existing roadways. The Proposed Action will be constructed in phases as allowed through available funding.

The selection of a preferred alternative will be made after consideration of comments received at the public hearing and from other public agencies, and will be documented in the final Environmental Assessment.

## **D. Project Impacts**

The following is a summary of the environmental factors considered and the impacts of the Proposed Action. The study corridor and environmental considerations are shown on Exhibit II-1, and the environmental impacts are presented in Table II-5 in Chapter II.

### **1. SOCIAL IMPACTS**

#### **a. Neighborhood and Community Cohesion**

The alignment of the Proposed Action would travel through mostly undeveloped land and would not bisect or disrupt existing residential and commercial areas. There would be no total acquisition of residential or commercial property by the Proposed Action, and there would be no impacts to the existing cohesion of the neighborhoods and the community. In addition, the Proposed Action would provide a multi-use trail for pedestrians and bicyclists, connecting the Shoal Creek Communities in northern Kansas City to the Liberty and Pleasant Valley communities, and the South Valley Middle School and Junior High School east of I-35.

#### **b. Changes in Traffic Patterns**

The Proposed Action would provide a new crossing over I-35, thus providing a new route for east/west and north/south travel that does not currently exist. In addition, NE 76<sup>th</sup> Street would cease to travel straight through from Church Road to existing Flintlock Road. Instead, the portion of NE 76<sup>th</sup> east of Flintlock Road will be re-routed to tie into Flintlock Road south of the existing intersection. A small portion of Liberty Drive would also be re-routed to intersect with the proposed extension of Flintlock Road just south of Little Shoal Creek.

#### **c. Safety Issues**

The Proposed Action would reduce traffic and congestion at the M-152 and Pleasant Valley interchanges, thereby decreasing the number of accidents within the two interchanges. It would also improve safety for school buses and motorists wanting to cross I-35 and avoid the two interchanges. In addition, the Proposed Action would provide a multi-use trail for pedestrians and bicyclists, which would be separated from the vehicular traffic.

All of the police, fire and ambulance facilities that serve the immediate area are located outside of the study corridor and would not be directly affected by the Proposed Action. The roadway improvements would enhance the overall public safety by addressing congestion and improving response times for emergency vehicles and police personnel as a result of providing smoother flowing transportation facilities in the vicinity of the study corridor.

**d. Pedestrian and Bicyclist Considerations**

The Proposed Action would include a ten-foot wide combined pedestrian and bicycle trail on the east side of the overpass, thereby providing a connection with the existing and future bike routes (according to regional bike plans).

**e. Public & Semi-Public Facilities**

Publicly-owned parks, recreation facilities/areas (including some public school play areas), and wildlife and waterfowl refuges have special status under the provisions of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. Before a transportation project is allowed to proceed with any encroachment on a Section 4(f) property, a specific evaluation must be conducted that tests all proposed alternatives.

A land use survey for the project area indicated that there are no public parks, recreation areas, wildlife refuges, or flood buyout properties located within or near the study corridor. However, there are two other public properties located within the study corridor as discussed below (see Exhibits II-1 and II-8).

The first property, located east and west of Little Shoal Creek between I-35 and Liberty Drive, is owned by the Liberty Public School District #53. The portion of that land on the east side of the creek contains the South Valley Middle School and the South Valley Junior High School. None of the buildings or athletic facilities would be directly impacted by the Proposed Action, however, some of the undeveloped portion of the property would be partially impacted. However, this land is not a public park or recreation area, nor a wildlife refuge, nor a flood buyout property, and would not be subject to the provisions of Section 4(f).

The second property, located on the west side of Liberty Drive (second lot north of W Liberty Drive), contains a building that houses the Clay County Department of Social Services, Division of Health, but is not a Section 4(f) eligible property. Although no direct impact would occur to the building, there would be a partial impact to the property in which seven parking spaces would be removed by the Proposed Action.

**f. Environmental Justice**

The study corridor is not considered to have a low-income population or minority population that would require special considerations under the guidance of Environmental Justice procedures. The Proposed Action would not require the acquisition of any residences or businesses, and would therefore not result in adverse or disproportionate impacts to any minority or low income population.

**2. ECONOMIC IMPACTS**

The Proposed Action would provide an alternative option for drivers to cross the interstate to access land uses on both sides of I-35, which means that travel distances and travel times are reduced for all motorists. Therefore, improvements to travel for motorists who use the Flintlock Overpass as well as motorists who remain at the existing interchanges means cost-savings to all drivers with the reduction in both travel times and travel distance.

### 3. LAND USE IMPACTS

The study corridor is comprised of a small portion of the City of Kansas City, Missouri (on the west side of I-35), a portion of the City of Liberty, Missouri (on the east side of I-35), and the far eastern edge of the City of Pleasant Valley (on the west side of Liberty Drive), all of which are in Clay County. Existing land use categories located within the study corridor are mostly undeveloped, which includes the wooded riparian corridor of Little Shoal Creek and a small pasture area. Other existing land uses along the edges of the study corridor include residential, office, light industrial, and public/semi-public (see Exhibit III-1).

Based on the available future land use plans, the only change that would occur to the designated future land uses within the study corridor would be at the Little Shoal Creek riparian area on the east side of I-35, where the proposed roadway would travel on the edge of some of the wooded land adjacent to the floodplain (see Exhibit III-2). Regarding the remaining areas within the study corridor and the areas adjacent to the study corridor, there would be no anticipated major land use changes from those identified on the future land use plans as a result of implementing the proposed roadway. As a result, the roadway would be consistent with the cities' future land use plans. The study corridor is located in a rapidly developing urban area and development will occur in the currently undeveloped areas according to each city's plans.

### 4. RIGHT-OF-WAY IMPACTS

Total property acquisition would not be required, however, the Proposed Action would require the partial acquisition of the following properties (see Exhibit II-8):

- **Residential** – 7 parcels (minimal acquisition at rear lot lines)
- **Business** – 2 parcels (one parcel containing a gravel storage area for semi-trailers; and a one parcel at Havens Construction – land only)
- **Public/Semi-public** – 2 parcels (one parcel of open land owned by Liberty Public School District #53; and one parcel at the Department of Social Services – 7 parking spaces)
- **Undeveloped Land** – 4 parcels (two parcels north of NE 76<sup>th</sup> Street; one parcel of open pasture area south of NE 76<sup>th</sup> St.; and one parcel of wooded area west of Liberty Drive)

### 5. FARMLAND IMPACTS

Within the study corridor there are no agricultural areas with cultivated crops or livestock, and all of the land within the study corridor is within city limits. As such, the area meets the definition of land that is “already in or committed to urban development or water storage,” as contained in the Farmland Protection Policy Act (7 CFR, Part 658). It was also determined that there are no lands involved in the Conservation Reserve Program (CRP) or the Wetlands Reserve Program (WRP) within the study corridor.

### 6. WATER RESOURCE IMPACTS

The existing water resources include streams and potential wetlands (no ponds are present), and are presented on Exhibits II-1 and II-8 in Chapter II, and III-3 through III-7 in Chapter III.

#### a. Streams

The stream impacts for the Proposed Action would be in the form of fill material from culverts or embankment placed within the Ordinary High Water Mark of the stream. Where streams are bridged, these types of impacts would be avoided or minimized.

The Proposed Action would involve eight stream crossings. Five of those crossings would be bridged, which includes four at Little Shoal Creek and one at the unnamed tributary southeast of the NE 76<sup>th</sup> Street/Flintlock Road intersection. The bridged stream crossings of Little Shoal Creek would not result in linear impacts from fill material. However, the unnamed tributary that would be bridged (south of NE 76<sup>th</sup> Street) would require some relocation, and the existing bridge on NE 76<sup>th</sup> Street (east of Flintlock Road) would be removed.

One stream crossing at the ephemeral stream west of the school would require a culvert. The existing culvert that conveys Little Shoal Creek under Liberty Drive would be extended on the southeast side.

The south unnamed tributary of Little Shoal Creek west of Liberty Drive would be crossed and would be filled and relocated. A new meandering channel would be constructed (on the west side of the proposed roadway) that would tie into the Little Shoal Creek main channel.

In total, 1063 linear feet of stream channel would be filled, equating to 0.23 surface acres of impacts. The total length of new channel construction (relocation of an existing channel) would be 860 linear feet.

**b. Wetlands**

Field delineations were performed at three of the National Wetlands Inventory (NWI) mapped areas that are within the impact zones of the alternatives. It was determined that none of those areas meets all three of the wetland criteria parameters to be considered jurisdictional wetlands, therefore, there are no impacts to vegetated wetland areas.

**c. Compensatory Mitigation**

Where appropriate, possible mitigation strategies for stream impacts could include new channel construction (stream relocation to partially offset filled streams), utilizing grade control structures, stabilizing disturbed banks with a combination of live vegetation and riprap or erosion control mats (bioengineering techniques), incorporating native seeding and plantings along the stream banks and buffer zones, or by providing an in-lieu fee for stream mitigation at other locations through programs such as the Stream Stewardship Trust Fund. During the design phase, coordination will take place with appropriate resource agencies to determine necessary mitigation strategies.

**7. WATER QUALITY IMPACTS**

To protect the environment from sedimentation and construction pollutants during the building phase, the control of water pollution is to be accomplished by the use of Best Management Practices (BMPs) as developed by the Kansas City Metro Chapter of the American Public Works Association. The BMPs can include measures such as the use of temporary berms, ditch checks, slope drains, sediment basins, straw bales, silt fences, seeding and mulching. Temporary and permanent runoff drainage (retention or detention) basins, if appropriate, may also be designed and installed to lessen water quality impacts by trapping sediment and other contaminants, while reducing erosive storm surges. The cities of Kansas City and Liberty will consider utilizing native vegetation in disturbed areas where appropriate.

**8. FLOODPLAIN IMPACTS**

In order to provide travel lanes for the Flintlock Road overpass, it is necessary to locate the travel lanes within and through the floodplain of Little Shoal Creek and two of its tributaries (see Exhibit II-8). A total of 4.01 acres of floodplain would be affected by the Proposed Action. This alternative was determined to provide the best solution to existing roadway deficiencies and

future traffic volumes, to best accommodate community access and growth, and to have a low environmental impact. The crossings of all floodways will be designed and constructed in compliance with applicable floodplain regulations, including Executive Order 11988. The design intent is to limit to “zero rise” in the base flood elevations attributable to implementation of the proposed roadway.

## **9. BIOLOGICAL RESOURCES IMPACTS**

### **a. Forest Impacts**

Amounts of forest that would be removed by the Proposed Action include 4.75 acres of upland forest and 6.12 acres of riparian forest. As mitigation for forest impacts, the cities of Kansas City and Liberty will consider incorporating tree plantings along the corridor where practicable.

### **b. Threatened and Endangered Species**

#### ***Indiana Bat (Myotis sodalis)* (Endangered on both the federal and state level)**

There are no known locations, recorded occurrences or designated critical habitat of the Indiana bat within or near the study corridor. The Proposed Action has been aligned to avoid as much of the floodway and floodplain as possible, thereby minimizing impacts to the wooded riparian areas. Most of the unavoidable impacts would be in areas that have already been fragmented by development and utility corridor placement, as the project is located within a rapidly developing urban area. Based on these factors, at this time this project is not likely to have an adverse impact on the Indiana bat. The U.S. Fish and Wildlife Service stated in their response (dated June 7, 2005), that Section 7 consultation is concluded.

#### ***Other Species***

According to the Missouri Department of Conservation, state endangered grassland birds that could occur in the area include the northern harrier (*Circus cyaneus*), the greater prairie-chicken (*Tympanuchus cupido pinnatus*), and the barn owl (*Tyto alba*). Another grassland bird, the Henslow's sparrow (*Ammodramus henslowii*) is a Species of Conservation Concern that is considered imperiled in the state (S2 ranking). There are no prairies or native grass plantings within the study corridor, and it is not anticipated that the aforementioned bird species would be adversely impacted by the project.

## **10. CULTURAL RESOURCES IMPACTS**

An archival search was conducted prior to field work to identify any previously recorded cultural resources and to determine the present state of knowledge concerning the history of the area. In addition, a cultural resource survey was performed within the area of potential effects (APE) of the proposed Flintlock Overpass of I-35 (see Exhibit II-1) in order to identify any archaeological resources that may exist and to determine the potential significance of these resources.

As a result of the cultural resource survey for the proposed Flintlock Road Overpass of I-35, one historic archaeological site, 23CL1453, and one historic masonry structure were recorded. The locations of these resources in relation to the Proposed Action are shown on Exhibit II-8.

Site 23CL1453 consists of the concrete block foundation of an outbuilding constructed after 1935. This outbuilding is not associated with a residence, and very few artifacts were recovered during the survey. Due to the scarcity of artifacts and the relatively late date of this site, the State Historic Preservation Office (SHPO) has determined that it is not eligible for the National Register (see letter dated November 17, 2005 in Appendix B). No further archaeological testing is recommended.

The masonry structure located on the Liberty Public School District Property was probably built by the Civilian Conservation Corps (CCC) during the 1930s as part of a soil erosion prevention program, although no documentation was found during the archival search to directly link this structure to CCC Company 1728C or Camp PE-73. The limestone and cement wall is not of exceptional design or of unique style, and the SHPO has determined that it is not eligible for the National Register (see letter dated November 17, 2005 in Appendix B).

An architectural survey was completed to identify and document all architectural resources within the APE. All of the buildings recorded within the APE during the cultural resource survey of the proposed Flintlock Road Overpass of I-35 were less than 50 years old. None of these buildings are recommended as eligible for the National Register. The two bridges on NE 76<sup>th</sup> Street (non-trussed, pre-stressed concrete) are less than 50 years old and were determined to be not eligible for the National Register in a previous investigation (Survey No. CL-142 – Dycus, 2003).

## **11. HAZARDOUS MATERIAL IMPACTS**

There are only two identified hazardous waste site properties, representing four records, immediately adjacent to the study corridor. None of these sites were documented as serious environmental hazards believed to require extensive time and cost to clean up, and none of these sites would be impacted by the Proposed Action (see Exhibit II-8).

## **12. AIR QUALITY IMPACTS**

The project's design concept and scope are consistent with the project information used for the Transportation Improvement Program (TIP) conformity analysis. According to the Mid-America Regional Council (MARC), the Flintlock Overpass project is part of an existing conformity plan and would not be affected by the implementation policy for the new 8-hour Ozone standard.

## **13. NOISE IMPACTS**

The FHWA Traffic Noise Model, (TNM<sup>®</sup> 2.5)<sup>1</sup> was used to model existing 2005 and design year 2030  $L_{eq}$  noise levels. The design year noise levels were compared to the existing noise levels and to the Noise Abatement Criteria (NAC). Twenty-six (26) noise modeling receptors were identified to represent 27 residences (single family and multi-family), two (2) schools, two (2) locations on school athletic fields, a tennis court, a swimming pool and four (4) commercial establishments (see Exhibit II-8 for locations).

Based on the noise study completed, none of the modeled noise levels of the Proposed Action would exceed the NAC, and therefore noise mitigation is not necessary. If substantial changes in horizontal or vertical alignment occur during the remaining stages of design and construction, noise abatement measures will be reviewed.

## **14. VISUAL AND AESTHETIC IMPACTS**

With the Proposed Action, views of the road would occur from the South Valley Middle School and Junior High School athletic facilities as the roadway passes close to the west edge of those facilities where no road has previously existed. If practicable, landscaping with evergreen trees and shrubs could help to screen and soften the views of the road in addition to providing enhanced views from the road. The incorporation of landscaping and aesthetic design elements will be considered by the cities of Kansas City and Liberty in the design phase of the project.

---

<sup>1</sup> Michael C. Lau, Cynthia S. Y. Lee, Gregg G. Judith L. Rochat, Eric R. Boeker, and Gregg C. Fleming. FHWA Traffic Noise Model® Users Guide (Version 2.5 Addendum). Federal Highway Administration, April 2004.



## **15. SECONDARY AND CUMULATIVE IMPACTS**

When a project has direct impacts, they occur at the same time and place. Secondary or indirect impacts are caused by the project but occur later in time and are farther removed in distance, and are reasonably foreseeable. Cumulative impacts are impacts on the environment that result from the incremental impact of the project when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

The study area is an emerging growth area that is identified in the City of Liberty's Economic Development Plan. The proposed project will increase the economic vitality of the region by providing a more direct connection between the growing commercial area near M-152 and Flintlock Road, and the planned commercial and office areas near the Flintlock tie-in to the South Liberty Parkway that is currently under construction. The secondary and cumulative impacts will be the eventual conversion of current open space to low density residential and office, as planned within the project's study area, and its area of influence.

### **E. Public Involvement**

A public Pre-location Meeting was held at the South Valley Middle School on June 28, 2005 from 5 to 7 p.m. in which the preliminary alternatives were exhibited. Approximately 22 public officials from Liberty, Kansas City, Pleasant Valley and the Missouri Department of Transportation met at 4 p.m. for an open forum discussion and brief project presentation. Sixty-seven (67) people signed the attendance register and 20 comment forms were collected at the meeting. The public meeting was held in an open-house format.

The public feedback was quite positive on the need of the project. Public concerns included funding, bike/hike trail connectivity, location of the roadway in regards to the school athletic fields, and anxiety about using roundabouts. Roundabouts were the most voiced public concern. As roundabouts are not common in this study area, many citizens are apprehensive about this type of intersection. Details concerning the public meeting and a summary of written and verbal comments are included in Appendix A.

### **F. Agency Coordination**

Coordination letters requesting input and information were sent to the following resource agencies (response letters can be found in Appendix B):

- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers – KC District
- Natural Resources Conservation Service
- Federal Emergency Management Agency (no response)
- State Emergency Management Agency
- Missouri Department of Conservation
- Missouri Department of Natural Resources

